

Amendments to the Specification:

Please replace the paragraph on page 17, lines 6 through 16 with the following paragraph:

Referring to Fig. 3, the above-mentioned "sieve basket bowl set" is used, on which a film to be tested (size: 200-260 x 200-260 mm) is placed, and then 150 g of water is added on the film. On the other hand, 150 g of the above saline solution is added into the bowl side, and the entire system obtained is wrapped by a wrap for food (a polyvinylidene chloride film, trade name: ~~Saran-wrap~~ SARAN wrap, mfd. by Asahi Kasei Corp.) to prevent the evaporation of water. It is left to stand as it is at ordinary temperature, and EC at the water side and the saline solution side is measured every 24 hours.

Please replace the paragraph on page 17, line 33 through page 18, line 8 with the following paragraph:

Using a commercial glucose (dextrose), a 5% glucose solution is prepared. Using the same "sieve basket bowl set" as in the above saline solution test, a film to be tested (size: 200-260 x 200-260 mm) is placed thereon, and then 150 g of water is added on the film. On the other hand, 150 g of the glucose solution is added into the bowl side, and the entire system obtained is wrapped by a wrap for food (polyvinylidene chloride, trade name: ~~Saran-wrap~~ SARAN wrap, mfd. by Asahi Kasei Corp.) to prevent the evaporation of water. At this state, it is left to stand as it is at ordinary temperature, and the sugar content (Brix) of the water side and the glucose side is measured every 24 hours using a Brix meter.

Please replace the paragraph on page 63, line 14 through page 64, line 13 with the following paragraph:

Using a sieve basket bowl set (the radius of the sieve basket is 6.4 cm and the content is 130 cm³) in a manner similar to Example 7, a film was placed on the sieve basket, onto which 150 g of pure water was placed, and 150 g of nutrient fluid was added into the ball side, and covered with ~~Saran-wrap~~ SARAN wrap (a polyvinylidene chloride film). A total of seven

containers are prepared for the sampling times of 3, 6, 12, 24, 36, 48 and 72 hrs, and after the passage of a given time, 100 ml each was taken into a sample container. Major fertilizer components in each sample were analyzed.

- 1) Water vapor-permeable film: PVA film, 25 μ m (mfd. by The Nippon Synthetic Chemical Industry Co., Ltd.), hydrophilic polyester, 20 μ , (mfd. by Dupont)
- 2) Water: distilled water (mfd. by Wako Pure Chemical Industries, Ltd.), nutrient fluid fertilizer: Otsuka House No. 1, 1.5 g/L, No. 2, 1 g/L (mfd. by Otsuka Chemical Co., Ltd.)
3. Analytical method
 - a) Ammonium ions, nitrate ions and sulfate ions:
Analyzed by ion chromatography (with respect to details of analysis, reference can be made to "Analysis of Water" 4th edition, edited by Hokkaido branch of The Japan Society for Analytical Chemistry, issued by Kagakudojin Co., Ltd., July 20, 1997, Chapter 3 Analytical methods used for the analysis of water 3.7.3 Ion chromatography (pp. 125-129)).
 - b) Phosphorous, potassium, calcium and magnesium:
Analyzed by ICP (Inductively Coupled Plasma - Atomic Emission Spectrometry) ion chromatography (with respect to details of analysis, reference can be made to "Analysis of Water" 4th edition, edited by Hokkaido branch of The Japan Society for Analytical Chemistry, issued by Kagakudojin Co., Ltd., July 20, 1997, Chapter 13 Analytical methods related to trace polluting substance 1.3.10 ICP (pp. 478-480)).

Please replace the paragraph on page 68, line 11 through page 69, line 6 with the following paragraph:

On the film, Supermix A (mfg. by Sakata Seed Corporation) was placed as the soil to a depth of 2 cm, and 12 pieces of sunny lettuce (three main leaves) were planted. They were grown in a hothouse (without control of temperature or humidity) from November 12, 2002, to January 11, 2003 (60 days). Then, the PVA film that was integrated with the root, was used as

the sample, and optical photomicrographs (magnification: 10 to 100 fold) of the interface of the root were taken.

[Sample pretreatment and observation]

- 1) Sample is dehydrated with ethanol.
 - 2) Embedded in a hydrophilic resin "Technovit" (mfd. by Okenshoji Co., Ltd.).
 - 3) Cut into a thickness of 3 μ m by a glass knife, and placed on a glass plate to dry.
 - 4) Stain with a 0.1% toluidine blue for 15 minutes.
 - 5) Destain the excessively stained parts with a 70% ethanol solution under running water (differential).
 - 6) After dehydrating with alcohol, put in xylene, and then cover with a cover glass.
 - 7) Examine with an optical microscope at magnification of 10 to 100-fold.
- (With respect to the details of the method of pretreatment of samples and the examination method, see, for example, the detailed test methods for the homepage of Okenshoji Co., Ltd. (<http://www.okenshoji.co.jp/>), the column of "low-temperature polymerization resin Technovit").

The results of observation by an optical microscope are shown in Fig. 34. As shown in this Fig. 34, the cells of the root closely adhered onto the PVA film surface, and it was observed that the PVA film has integrated with the root.

Please replace the paragraph on page 79, line 21 through line 30 with the following paragraph:

Using a sieve basket bowl set (the radius of the sieve basket is 6.4 cm and the content is 130 cm³) in a manner similar to Example 7, a film of 20 x 20 cm was placed on the sieve basket, to which 150 g of tap water was added, and 150 g of saline solution was added to the ball side, covered with ~~Saran wrap~~ SARAN wrap (a polyvinylidene chloride film), and left to stand at room temperature. At each sampling time, a nutrient fluid at the water side (sieve basket) and the saline solution side (bowl) were well agitated, and then sampled using a dropper to determine the EC value.

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Please replace the paragraph on page 81, line 8 through line 18 with the following paragraph:

A nutrient fluid was placed in a Styrofoam box, and the surface was covered with a film. Onto the film, seeds that were subjected to a different treatment method as described below were sown, and the box was covered with a Silver mulching film, and the box was placed near the window in the room. On day 2, the Silver mulching film was removed, and covered with ~~Saran wrap~~ SARAN wrap (a polyvinylidene chloride film) (mfd. by Asahi Kasei Corp.), which was subjected to light because the Silver mulching film is opaque but the ~~Saran-Wrap~~ SARAN wrap (a polyvinylidene chloride film) is clear, and the state of growth was observed at the time of day 4.